National Climatic Data Center

DATA DOCUMENTATION

FOR

DATA SET 6125 (DSI-6125)

NMC DERF II (Reduced Version)

January 21, 2003

National Climatic Data Center
151 Patton Ave.
Asheville, NC 28801-5001 USA

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1. Abstract: This data set is a reduced version of the NMC (National Meteorological Center) DERF II data set, an efficient, one-level, primitive-equation spectral model and NMC's 1988 Research version of the NMC medium range forecast model. DERF II is the second phase of the Dynamical Extended Range Forecast (DERF) data produced by the National Meteorological Center/Climate Analysis Center (now the National Center for Environmental Prediction, USA/NCEP) and the University of Maryland's Center of Ocean, Land, and Atmosphere (COLA) in response to the recommendation of the Experimental Climate Forecast Center (ECFC) at Goddard Space Flight Center.

The data set described in this document is a reduced version of DERF II and consists of 108 thirty-day forecasts starting at 00Z each day beginning 12/14/86 using the research version of the operational forecast model (WMC, 1988). The reduction from 250 DERF II tapes to a subset of 50 tapes and then to 5 magnetic tapes was accomplished through a combination of reducing the spatial resolution and choosing a subset of fields most valuable to the immediate users.

2. Element Names and Definitions:

DATA FIELDS

The fields selected from the original data for inclusion in this data set are the global post-processed mandatory pressure level data in the form of spherical harmonic coefficients at a resolution of rhomboidal 30 (R30). These fields are: ln (surface pressure), geopotential height, UCOSO, VCOSO, temperature, vertical velocity, and relative humidity.

Global surface data are provided on a gaussian grid with 102 points in the north-south direction and 128 points in the east-west direction.

The surface gridded fields are: surface temperature, soil moisture, snow depth, total rainfall, convective rainfall, surface sensible heat flux, surface latent heat flux, surface u-stress, and surface v-stress.

The upper level elements were kept at 1000, 850, 700, 500, 400, 300, 250, 200, 150, and 50 mb. The exceptions are vertical velocity which was kept up to 100 mb and relative humidity which was kept up to 300 mb.

DATA FORMAT

For each analysis period the initial conditions (00Z) and all 30-day forecasts starting from that day were written on a daily basis.

The first set of records consists of the surface (gridded fields) and the second set of records consists of the spectral data. The upper level data is organized by level, meaning all quantities at 1000 mb are written, then all quantities at 850 mb are written, etc.

TAPE INFORMATION

The first 4 tapes each contain 4 files. Each file contains 6 analysis/forecast periods (initial state and 1-30 forecast). Similarly for the fifth tape for the first 2 files. The third file on the fifth tape contains the spectral data for the April analyses, and the fourth file contains the Legend functions (P(NY,NUM)). Each of the four data files on all five tapes have one header file at the beginning and one at the end. The file

names are given below.

Tape	File	Name
1	1	YBSDS.DERF.D1214.D1219
1	2	YBSDS.DERF.D1220.D1225
1	3	YBSDS.DERF.D1226.D1231
1	4	YBSDS.DERF.D0101.D0106
2	1	YBSDS.DERF.D0107.D0112
2	2	YBSDS.DERF.D0113.D0118
2	3	YBSDS.DERF.D0119.D0124
2	4	YBSDS.DERF.D0125.D0130
3	1	YBSDS.DERF.D0131.D0205
3	2	YBSDS.DERF.D0206.D0211
3	3	YBSDS.DERF.D0212.D0217
3	4	YBSDS.DERF.D0218.D0223
4	1	YBSDS.DERF.D0224.D0301
4	2	YBSDS.DERF.D0302.D0307
4	3	YBSDS.DERF.D0308.D0313
4	4	YBSDS.DERF.D0314.D0319
5	1	YBSDS.DERF.D0320.D0325
5	2	YBSDS.DERF.D0326.D0331
5	3	YBSDS.DERF.APRIL.ANLY
5	4	YBSDS.DERF.LEGR.GRD46

The tapes were written at 6250 BPI using RECFM VBS LRECL 19065 BLOCK 19069

Note: For more detailed information on the data elements, resolution, units, tape information, etc., please refer to the document entitled "A Reduced Version of the WMC DERF II Data Set", for which this document is designed to be a brief introductory description.

3. Start Date: 19861214

4. Stop Date: No information provided with original documentation.

5. Coverage: Global coverage.

6. How to Order Data:

Ask NCDC's Climate Services about the cost of obtaining this data set.
Phone: 828-271-4800
FAX: 828-271-4876
e-mail: **NCDC.Orders@noaa.gov**

7. Archiving Data Center:

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, NC 28801-5001
Phone: (828) 271-4800.

8. Technical Contact:

National Climatic Data Center

Federal Building
151 Patton Avenue
Asheville, NC 28801-5001
Phone: (828) 271-4800.

9. Known Uncorrected Problems: No information provided with original documentation.

10. Quality Statement: No information provided with original documentation.

11. Essential Companion Datasets: No information provided with original documentation.

12. References: No information provided with original documentation.

Bourke, William, 1971, An efficient, One-level, Primitive-equation Spectral Model, Monthly Weather Review 100: 683-689.

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